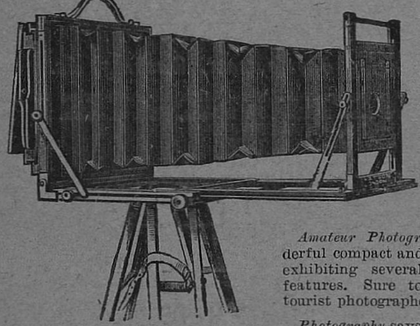
Journal of the Amateur Photographic Society of Madras.

Vol. 3.—No. 9. Price As. 8.

August, 1897.

HIGHEST CLASS PHOTOGRAPHIC INSTRUMENTS.

WATSON'S ACME TOURIST'S CAMERAS & RECTILINEAR LENSES.



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British Journal of Photography says:—"It folds into a smaller compass, and is lighter and more portable than any pattern we have yet seen.

Amateur Photographer says:—"A wonderful compact and fairy-like instrument exhibiting several new and important features. Sure to be a favourite with tourist photographers."

Photography says:—"One of the greatest advances in camera construction yet reached, away ahead of anything else."

Sizes and Prices.	6½ x 4¾	7½ x 5	8½ x 6½	10 x 8	12 x 10	15 x 12
	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
Camera and three double slides	9 12 0	10 0 0	12 5 0	14 0 0	16 12 6	21 0 0
Rapid Rectilinear Lens with Iris diaphragm	4 0 0	4 10 0	5 0 0	6 15 0	8 15 0	11 10 0
Solid Leather Travelling Case with spring lock ...	1 15 0	1 15 0	2 2 0	2 10 0	3 0 0	3 15 0
Rotating Turntable in base, and Tripod Stand ...	2 2 0	2 2 0	2 2 0	2 10 0	2 15 0	3 3 0
	17 9 0	18 7 0	21 9 0	25 15 0	31 2 6	39 8 0

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½-plate and 7½ x 5	8½ x 6½	10 x 8	12 x 10	15 x 12
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Brass binding extra—recommended for India.

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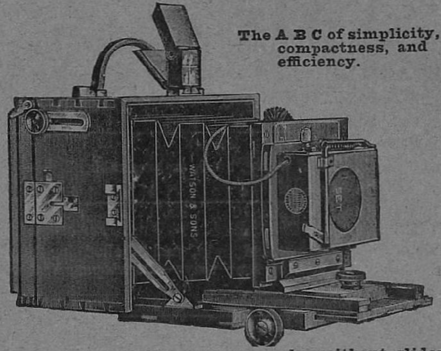

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Camera and three double slides ...	3 15 0	4 6 0	5 10 0
Watson's rapid rectilinear lens, with iris diaphragm	2 17 6	3 2 6	4 0 0
Exposure shutter	1 0 0	1 0 0	1 0 0
Finder	0 10 6	0 10 6	0 10 6
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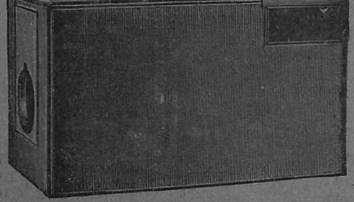

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Restrainer, Potassium Bromide ...	...	0	10
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Toning	...	0	14
Chloride of Gold	7½ grs. ...	1	4
Do.	15 „ ...	2	8
Hyposulphite	per lb. ...	0	5
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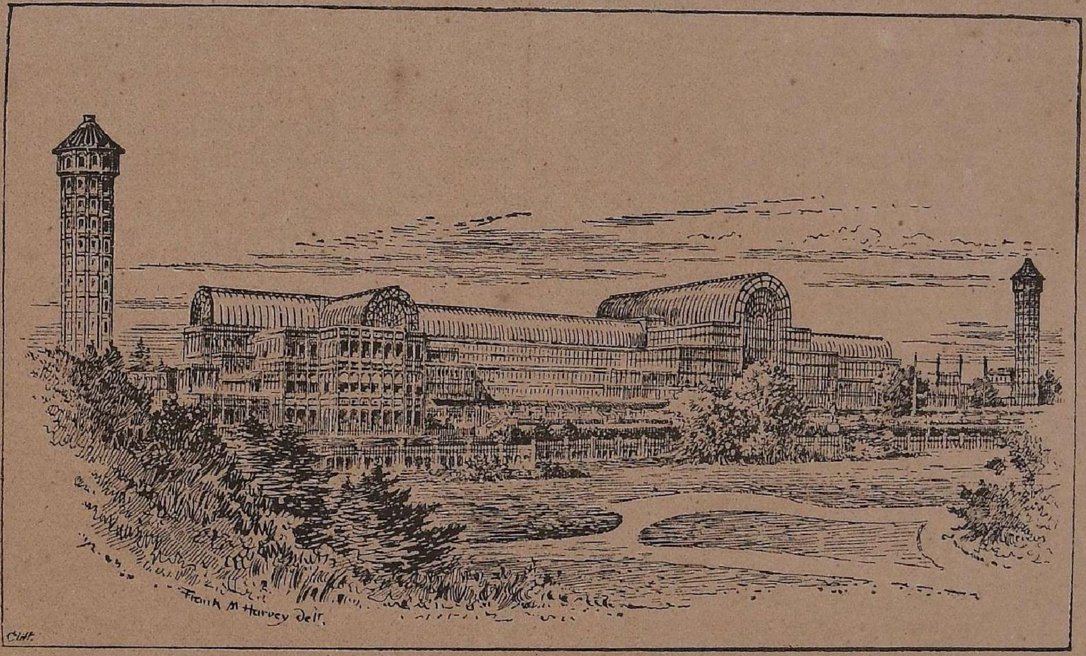
Frank M Harvey delt.

Vol. III. No. 9. **August, 1897.**

Journal of the Amateur Photographic Society of Madras.

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EDITORIAL NOTES.

COLOUR PHOTOGRAHY.—The following letter from Sir Henry Trueman Wood to *Nature* throws some interesting light on the vexed question of the Dansac-Chassagne process of colour photography:—

"I have had a good many inquiries addressed to me about the Dansac-Chassagne process of colour photography, described in *Nature*, February 4, 1897, and as I was to a large extent responsible for having drawn public attention in this country to the process, I am naturally anxious that those who feel an interest in the subject should have, at all events, such information about it as I can supply without a breach of the confidence with which I have been favoured.

First let me say that the information I can publish does not include any details as to the materials employed, or the method of their manufacture. The process is to be worked as a secret one, and the statements made to me as to the method of preparing the liquids used were confidential. This of course greatly affects the scientific interest of the question, but commercial considerations in this, as in many like cases, overpower scientific interest.

It is only quite lately that I have been able to make any fuller examination of the process, and such rough tests as I have made are very incomplete. They are, however, complete enough for me to say that, while they do not justify the claims originally put forward as to the completely automatic nature of the process,

I yet cannot account for the results produced without admitting that the selective action claimed does to some extent exist; that the colouring matters applied to the photographic print have a certain tendency to attach themselves to those portions of the print which would be of a similar colour had the image been reproduced in natural colours, and also that the colouring matters, when applied in succession, do so combine or react on each other as to reproduce, approximately, the tones or tints of the original.

There are some other inaccuracies in the first description given to me, which I should like to correct. It does not appear to me that a special negative, or a special print, is any advantage. It certainly is not necessary. The process can be applied to any ordinary print on albumenised paper, or to any positive on an ordinary gelatine plate. It does not appear to work successfully with some, at all events, of the more modern printing-out papers. Nor is it a fact that during the process of treatment the positive has to be exposed to bright light.

This it will be said is different from the process as it was first described. Precisely. It is because of that difference, and because I was responsible for the publication of the first description, that I now ask you to allow me to inform your readers as to the real value of the process so far as I can estimate it at present.

The above conclusions are based on my own attempts, and some rather more successful, by my friend Mr. Herbert Jackson. Judging from the work of the skilled operators, whom I have watched in M. Chassagne's studio, I can only say that in their hands the process is certainly not entirely automatic. The operator requires to know generally what the colours should be, and the results largely depend on his judgment and skill in applying the colour in the right places.

But the practical outcome is that anybody, after a little instruction, can produce, with very great rapidity, coloured pictures which, as evidenced by the specimens shown in public, are of considerable merit. The result is obtained by first applying the liquids over the whole picture, and then working up the different parts of the picture by applying them locally. About the truth of this there can be no manner of doubt. Hundreds of persons in Paris have seen it done, and have admired the results. The difficulty is to satisfy oneself as to how far the process is purely mechanical, and how far it is a matter of skill. A certain amount of skill is required, but, admitting this, it appears to me that taking it at its lowest value, the process does provide a means of colouring photographs—and with approximate correctness—that has not previously been available.

Whatever may be the practical or commercial value of the process, it will prove of very great theoretical interest, if as an outcome it should be conclusively proved that any monochrome photograph has even the smallest power of colour selection, depending on the tints of the original; as this once established, some of our current photographic notions would be revolutionised."

WRITING on the same subject the Editor of the *British Journal of Photography* says "we do not believe that selective colour absorption has anything to do with the rationale of the process—in short we are convinced, as was every practical photographer at Yarmouth last week that the Dansac-Chassagne process is simply a method of harmoniously colouring photographs with which persons of some artistic skill can produce very passable results."

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WE have received a copy of the price list of Taylor, Taylor, & Hobson's lenses, some of which, as is well known, are of a very high quality. The most interesting lenses in their list are the new Cooke lenses, which are rapidly coming into favour. It is claimed for these lenses that they are truly rectilinear and free from spherical error and from chromatic aberration, both of axial and oblique pencils, and the results obtained by their use seem to fully justify this claim. They certainly can hold their own against the much-praised German lenses now so widely used.

THE following conversation which took place at a recent meeting of the Royal Astronomical Society seems worth recording. It arose out of a paper by Prof. Nægamvala of Poona on photographing Nebulæ.

Dr. Spitta.—Have you tried the effect of formalin on your plates?

Prof. Nægamvala.—No.

Dr. Spitta.—I have made some experiments on the action of formalin and I find that it prevents the film going to pieces, and that it makes the plate hard and strong. A plate can be fixed with it in an hour, but it should be dried before a fire and not with a spirit lamp.

The Chairman (Dr. Common).—If you wish to die, or kill your assistant, I should say use formalin.

Dr. Spitta.—I have used it for some time and am still alive.

The Chairman.—That only shows that you are differently constituted to the rest of the world. I used formalin and my man had to go home soon after the bottle was opened. He did not know what was the matter with him, nor did I; but I found this formalin had a powerful toxic effect, and I would advise every one to be very cautious in its use.

THE Photographic Convention of the United Kingdom met this year at Great Yarmouth, under the presidency of Mr. F. P. Cembrano. Amongst the papers read and discussed, the following may be mentioned :—The Points of a lens, by T. R. Dallmeyer; Strength of Hypo-solution and time of immersion for fixing albumenised paper, by Messrs. Haddon & Grundy; Methods of control and their influence on the development of artistic photography by A. Horsley Hinton; The Half-tone process popularly explained—which we reproduce amongst the extracts—by William Gamble; Photography in natural colours by E. J. Wall.

IN their paper on fixing albumenised paper, Messrs. Haddon & Grundy gave the results of over forty analyses of papers fixed in different ways. One of the results brought out was that there was a strength of hypo. which gave the maximum efficiency. A ten per cent solution of hypo. in from five to ten minutes removes more silver from paper than does a stronger solution in the same time. They recommend that albumenised paper should be fixed with a ten per cent solution of hypo. made alkaline with ammonia (1 drachm to 40 oz. of solution), and that, unless the paper is unusually thick, the fixing should not be continued beyond ten minutes.

THE Tenth Annual International Exhibition of the Photographic Society of India will be held in Calcutta during January and February 1898. The arrangements will be similar to those in force during former exhibitions. The following medals are offered in addition to the Lady Mackenzie Gold Challenge Medal,—4 gold, 12 silver, and 15 bronze medals. Particulars as to exhibits must reach the Secretary not later than December 15 and the exhibits themselves not later than December 24.

AN OFFENDING NOVELIST.

"That ubiquitous nuisance, the 'Amateur Photographer,' can there [the Mena House Hotel, near the Great Pyramid] have his 'dark room' for the development of his more or less imperfect 'plates' * * * "—*Ziska*, by Marie Corelli.

I sob upon the sandy sea
Of Eypt's shingly deserts free,
For M. Corelli girds at me—
I am an amateur.

With *Ziska* open in my hand,
And chapter thirteen roughly scanned,
Behold, I'm branded with the brand
"Ubiquitous" indeed!

Still more the agony is piled
For I am chidden like a child,
And most unwarrantably styled
That "nuisance" too forsooth!

I ask why authoress so bold
Should such opinions of us hold,
And why on earth she wants to scold
The harmless amateur.

A fine contempt she has I know
For all who humbly come and go—
Like tourists—on this earth below,
E.g., the amateur.

She deals with types of kingly mould,
With mouldy kings, or mummies cold,
Princesses—anything that's old
Or somewhat mystical,

Godhead or ghost, or sprightly spook,
E'en Satan she will 'bring to book'—
At Visibles she will not look
Like a photographer.

But still I ponder mid the sand,
And try again to understand
Why she has raised a hostile hand
'Gainst us photographers.

When one of her 'electric thrills'
(Or psychic) me with visions fills
Hearken the truth that now distils
Like inspiration wrapt!

Perchance, when in the sunlight glare,
As she of Egypt took her share,
Some ribald Kodaker was there,
Some nincompoop—some Man.

Perchance he caught her ill-at-ease
When fiery blew the desert breeze,
Or fiercely bit the Cairene *****—
Impertinently bold;

Or, spite of recent statements met
With in the press, did he then get
Corelli and a mild cigarette
On his "imperfect" plate?

Or in some company absurd
(Such things will hap, as I have heard)
Correlli with some tourist herd
Upon a donkey perched?

Or as she strode (as sure she did)
Up Gizeh's awful pyramid
(A biped plain to all)—that id-
Iotic amateur!

Perchance she tried—ah! breathe it not—
With poor success t'accomplish what
She now reviles in language hot—
To take a photograph.

* * * *

I rise from out the desert dust
That powders from its rocky crust
Where pyramid and temple rust
In slow but sure decay,

And cry "O genius of this land,
Time-riddled sphinx, so calm and bland,
This riddle now I understand"—
The sphinx does not say "Nay."

C. S. M.

OUR HOME LETTER.

July 9th, 1897.

It has been with the photography of events rather than of landscapes or portraits that photographers have been mostly concerned since I last wrote. The great event, or series of events, taking place as part of the celebration of the Queen's Jubilee, seems to have almost completely diverted the attention of photographers from their usual fields of work. At the great procession in London cameras of every kind, from the guinea snap-shooter up to the costly cinematograph, were to be seen posted in positions of vantage all along the route. The results, so far as one may judge by those photographs which have been reproduced in our illustrated journals, are not everything one might desire, when it is considered how fine the day was. There is a hardness about them which, perhaps, has arisen from the mistaken wish to

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secure too much detail, or which may, perhaps, be accounted for on the score of the exposures being too brief. It is an erroneous idea that an ordinary procession, moving comparatively slowly, needs the shutter adjusted to a shorter period than, say, one-thirtieth of a second, especially when the camera is not placed broadside on, but at a smaller angle. There are, of course, a few exceptions, and no doubt many of the best views taken have never been reproduced at all. The cinematographer had a glorious time of it, and some fine films have been made. One enterprising photographer secured two or three films, and exhibited them the same evening in one of the provincial towns, 200 miles from London, having developed them in the railway train *en route*. But I must say no more about the Jubilee.

I would like to mention a new print trimmer, which has been brought out by Messrs. Butcher & Son, of Blackheath. It is called the "Lightning" print trimmer, and consists of a mahogany board, with a sharp steel edge on one side, upon which a print is placed and trimmed by means of a blunt knife working against the steel edge after the fashion of a pair of scissors. It is one of the simplest arrangements I have seen, and answers far better than the ordinary knife, especially in the case of carbon or platinotype prints on thick paper. The same firm have also brought out an arrangement for fixing to the ordinary tripod in order that the camera may be placed vertically either pointing up or outwards, for copying objects placed on a platform, or the ceilings of buildings.

There is a good deal in the careful adjustment of quantities when developing. A very little more or less of pyrogallic acid will make or mar a negative. Mr. Coulthurst, of the Manchester Photographic Society, recently read a paper on the subject of development, and pronounced himself greatly in favour of the speed action of a highly energetic developer in the case of hand camera work rather than the prolonged action of weak developer. His formula is as follows :—

For ordinary landscape, seascape, or other open subjects—

Pyro ...	... 3 grains, or 30 min. of 10 per cent. solution.		
Bromide...	... 1 grain, or 10 min.	do.	do.
Ammonia	... 1 min.	do.	do.
Water ...	... 2 ounces.		

In the case of street work or subjects showing dark shadows, and any very rapid exposures, he uses—

Pyro ...	... 2 grains, or 20 min. of 10 per cent. solution.		
Bromide...	... ½ grain, or 5 min.	do.	do.
Ammonia	...10 min.	do.	do.
Water ...	... 2 ounces.		

It is advisable to measure these out very carefully. A trifle too much or too little makes a great deal of difference when such high speed plates are being used. It is well to use dropping bottles for this purpose, and only use those that have been tested so that you know the measurements of the drops, which are well known to vary with different bottles.

Flood the developer over the plate with an even flow and cover over at once with a piece of board; keep well rocked; examine in the course of about two minutes, and, if correctly exposed and the developer is right, the high lights should have commenced to show. If this is so, continue as you are and development will proceed. Should more density be desired, add more pyro and a little ammonia. If, however, say, after three minutes, no signs of the image appears, add five more minims of 10 per cent. solution of ammonia, and keep on adding at short intervals until development is complete. In all cases, the negative should be kept clear of fog until all detail is obtained. If the negative appears thin when all detail is out, add 10 minims more of bromide and a little pyro, and density will rapidly build up.

However, even with the best of methods, and the most careful procedure, it is sometimes impossible to get good negatives. The method therefore of improving under-exposed negatives, which was recently given in a foreign magazine, will be worth quoting :— Negatives, which have been under-exposed, but are not wanting in detail, so far as can be seen, may be made to yield fairly satisfactory prints by placing them for a short time in a weak solution of a blue green aniline dye. This dye becomes absorbed by the gelatine in inverse proportion to the quantity of reduced silver forming the image. By this the denser parts of the negative absorb little, if any, colour, and, at the same time, the transparent portions take up a considerable quantity. This result produces a kind of compensation, by means of which excessive contrasts are greatly modified, if not entirely done away with.

MATTHEW SURFACE.

ROYAL PHOTOGRAPHIC SOCIETY.

INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

We have published, amongst our correspondence, a letter received from the Secretary of the Royal Photographic Society regarding the International Exhibition of Photography and its Applications which that Society proposes to hold in the Crystal Palace from April 27 to May 14, 1898. The entire nave of the building, together with such other rooms as may be found necessary, will be devoted to the exhibition.

The following division into sections is proposed :—

(i) The history of photography; (ii) Pictorial photography; (iii) Portraiture and general technical photography; (iv) Apparatus and material (including machinery in motion); (v) Photo-mechanical processes (including machinery in motion); (vi) Scientific applications of photography (including photography with the X-rays); (vii) Photography in colours; (viii) Photography as a science.

All exhibitors in sections iii, iv, and v, and those exhibitors in other sections, who are not specifically invited by the Committee to lend exhibits, will be charged one shilling per square foot of floor space, with a minimum charge of £1 and 6*d*. per square foot of wall space with a minimum charge of five shillings.

The preliminary prospectus contains details of the proposed arrangements under the various sections, and we can only say that, if the scheme is fully carried out on the proposed lines, the exhibition will be a most interesting and valuable one.

Members can have copies of this prospectus on application to the Honorary Secretary.

PROCEEDINGS OF THE SOCIETY.

Monthly Meeting held at the Masonic Hall, Mount Road,

Friday, 6th August, 1897.

Mr. C. Michie Smith, *President, in the chair.*

The attendance again was very poor in numbers.

PICTURES FOR THE MONTH.

One member only (Mrs. McNair) sent in pictures of a "Tamarind Tree," but they were very good and would have been perfect but for a slight over-development.

EXHIBITS.

The President showed an enlarged photograph of part of the moon, prepared by Dr. Weinek of Prague from a Lick photograph. It is on the scale of 10 feet to the moon's diameter.

The Honorary Secretary showed negatives taken by a member upon some plates of which a small supply of samples had been received and distributed: the results proved that the plates were of very great sensitiveness, but that the film was not capable of standing the ordinary temperature of Madras at this season of the year: he also showed one plate exposed and developed by himself which had been soaked in strong formalin (1 to 4) immediately after development—the film had held together and still showed the beautiful quality of the plate, but the whole of the surface was reticulated: he had noticed in other plates of the same make that the film reticulated much more in the shadows than in the high lights.

The Honorary Secretary started a short discussion on "halation" by saying he had recently photographed the interior of a church with a large window straight in front: he had cemented on the back of the plate a piece of ordinary red printing paper by smearing it over with a little of one of the commercial mountants now obtainable everywhere: not a particle of halation appeared in the negative. He had, before development, scratched off a bit of the paper so that he could judge of the density, but the rest of the paper remained on the back of the plate during development, washing and fixing, and was at last removed in the final washing waters.

Other members present gave their experiences of halation and the best way of preventing it, but the above mode seemed the easiest of all.

The Honorary Secretary remarked that he had a large supply of "backed" plates just arriving from England, he would try them and report results at a future meeting.

COMMITTEE.

Surgeon-Major-General C. Sibthorpe, C.B., was elected a member of the Committee in place of Mr. E. W. Stoney gone to England on eighteen months' leave.

GENERAL.

The Honorary Secretary announced the arrival from the Affiliation Committee of the Royal Photographic Society of a lecture on "Pictorial Photography" by Mr. A. Horsley-Hinton with a small set of lantern slides to illustrate his remarks: this was directed to be handed to the new Secretary with a view of having the lecture read and the slides shown at a future meeting.

The Honorary Secretary was directed to obtain for the Library a new book on "Platinotype Printing" by Mr. Horsley Hinton, published by Messrs. Hazell Watson and Viney, London.

With reference to the paragraph on page 91 as to finding a new Editor for the *Journal*, the matter was discussed for some time and in the end it was decided to postpone the selection to a future meeting.

The question of holding an Exhibition during the next cold season was then considered: the President thought it was too late to arrange an exhibition and it was decided to drop the matter for the present and bring it up at the next Annual Meeting.

The next matter was to elect a new Secretary in place of the one who vacated office after this meeting: after some discussion it was proposed by Mr. C. Michie Smith, seconded by Mr. C. E. Phipps and carried unanimously that Mr. S. Jackson be elected Honorary Secretary.

Mr. Dunsterville then brought forward his proposition that suitable premises should be rented as a permanent home for the society and fitted up with a proper dark-room, which would be furnished with the necessary dishes, measures, developing sink, &c.: his views are clearly stated on page 88 of the Society's *Journal* for July.

Some of the members present expressed their approval of the proposal and suggestions were made as to how the desired result could be attained with the smallest expense to the Society: it was decided to advertise in the local papers for the use of two rooms in a house centrally situated, and certain members undertook to make enquiries in other directions. Meanwhile the Meetings will continue to be held at the Masonic Hall.

NEXT MEETING.

At the next meeting the President will read a paper on "Eclipse Photography" with special reference to the coming total eclipse of the sun on January 22nd and to the work which amateur photographers can do in connection with it.

The picture subject for next meeting on 3rd September is "An Avenue" and for the October's meeting "Wind."

NEXT HALF-YEARLY COMPETITION.

The Subject for the above is "SPORT."

NEW MEMBER.

Mr. Cooper-Oakley proposed by Mr. R. Ll. Jones, seconded by Mr. C. Michie Smith.

CORRESPONDENCE.

TO THE EDITOR OF

The Journal of the Amateur Photographic Society of Madras.

DEAR SIR,

Can you tell me if there is any remedy for the yellow stains on the accompanying photos? They were caused by the iron from a tin trunk permeating through the paper when it was wet. The photographs were hung up to dry by pins and must have fallen or been blown down by the wind during the night. About half of the batch was spoilt in this way. Can you give me a good metol and hydroquinone combined developer, and also tell me if Swain's hydroquinone developer (page 133, Ewing's "Handbook of Photography,") would be suitable for isochromatic plates?

BARRACKPORE,
7th July, 1897. ENQUIRER.

P.S.—The house photograph was taken the morning after the earthquake.

*** Try a very dilute solution of hydrochloric acid, say, 1 : 40 or even weaker. Where the stains are not too deep this may remove them especially if applied as soon as possible after the stains have been made.

(2) We have found the following developer excellent both for plates and for bromide paper:—

Metol	... 60 grains	For use dilute with from 2 to 3 parts of water.
Hydroquinone ...	... 30 "	
Sulphite of Soda...	... 1 ounce	
Carbonate of Soda	... 1 "	
Water	... 15 "	

This is a very energetic developer and the exposures must be short.

(3) We have not tried Swain's developer, and so cannot advise as to its use. It is a sound general principle, in using special plates of any kind, to use for them the developers recommended by the maker.—ED.

DEAR SIR,

I am now busy in making new series of lantern slides with readings. Now I see in your paper of June, 1897, some interesting photographs of Burmah. I think slides of this country would be of interest also for the people here. Therefore I should like to ask you whether you say, if I can receive negatives of such photographs from Burmah, Siam, India, Calcutta, Madras, etc., etc., for making complete series. The best it should be duplicate-negatives.

I should thank you very much if you would let me know whether I can receive such negatives and under what conditions.

DUSSELDORF,
Cavalleriestr, 13. ED. LIESEGANG.

*** Perhaps some member of the Society may feel inclined to enter into negotiations with Herr Liesegang.—ED.

International Photographic Exhibition, Crystal Palace, 1898.

DEAR SIR,

I am sending you herewith the preliminary prospectus of the International Photographic Exhibition, which will be held next Spring, under the auspices of the Royal Photographic Society, in the Crystal Palace, Sydenham, London, S.E. I am also forwarding to you a block giving an external view of the building in which it is to be held in the hope that you will see your way to printing it so as to give your readers some idea of the accommodation it affords.*

You will see by the prospectus that the charges to exhibitors are of a very moderate character, being fixed solely with a view to defraying the necessary expenses of organization; while the constitution of the Society, preventing, as it does, everything in the nature of profit-sharing or trade, guarantees that the exhibition shall be conducted solely with a view to the advancement of photography. The organizing Committee is composed largely of prospective exhibitors themselves, who will do all they can to promote the interests of the exhibiting public, and the Society feels justified in appealing to everyone interested in photography to support them in making this exhibition the largest and most complete of its kind that has ever been held.

I am giving you this notice, so long in advance, in the hope that you will be able to help us in the distribution of information, by taking a supply of prospectuses and entry forms to send to any persons applying for them, or to any whom you may know as likely exhibitors. If you could do this, will you write to that effect, and I will see that copies of all documents, etc., are sent to you as they appear? They can be sent in either of the three languages—English, French or German, as you may desire. If you can let me know also of anyone possessing exhibits of interest, historically or scientifically, or otherwise, which might be lent for exhibition, I should be much obliged if you would do so, and trust that we may count upon your support in seeing that our country is well represented.

I am, dear Sir,
Yours faithfully,
R. CHILD BAYLEY,
Assistant Secretary.

LONDON, W.,
20th July, 1897.

NOTES.

Rising Front *v.* Swing-Back.—A new camera has been invented by Mr. F. H. Sanderson, which appears to have very great advantages over old forms, especially as regards architectural photography. The Sanderson principle is essentially the employment of a level base-board and perpendicular back, with unusually great scope for raising, lowering or tilting the front, and extending or contracting the camera. All these motions can be operated by simply loosening two screws and the photographer can arrange, compose and focus his picture with an ease and rapidity that can scarcely be understood. The Editor of *The Photogram* says that the new simple principle has no disadvantages in ordinary work, that in the simplest operations it is a little more convenient, and that in photographing high buildings, in confined positions, it can do more than is possible with the older apparatus.

* See our illustration.

The making of Pictures.—We recommend to the notice of beginners the little handbook on the above subject, published by the Imperial Dry Plate Co., Ld., and given away to purchasers of the plates or P. O. paper. The writer commences by saying photography in itself is not art, but the products of photography may be art, and possess, in the highest degree, all the attributes of artistic merit. The products of photography may be divided into six classes:—(1) Portraiture (*i.e.*, the likeness of an individual); (2) Figure study (*i.e.*, the characteristic representative of a class, an age, a trade, etc., by means of a type); (3) Genre or Group (*i.e.*, the portrayal of a story or incident by means of the action or attitude of the figures and their surroundings); (4) a Topographical view (the exact reproduction of a locality); (5) The portrayal, in part or whole, of a beautiful scene or effect in nature; (6) The expression of some idea or feeling by pictorial means. Photographs which belong to sections 1, 2, 3 and 4 may be classed as "the usual thing." In section 6 a photography unquestionably finds its highest expression because their inception depends on a faculty which few people possess—creative imagination. In section 5, however, the chief faculties required are appreciation and selection, and this the larger number of amateur photographers possess. He then goes on to give a couple of pages of notes and hints how best to utilise and bring out these faculties.

Colour Photography.—A Mr. W. Brooks, after long experimenting with a process of colour-photography, has succeeded in producing a landscape in colours in glass without the intervention of dyes or stains. *The British Journal* says "The beauty and apparent fidelity of the colours, and the absence of any visible photographic base, are very striking, the total effect being that of finely deposited colours." The method is to be perfected as early as possible.

How to Focus.—*The Photographisches Notizbuch* gives a method adopted by one of its readers. In order to make the best of the depth of focus in the lens, the most distant object that is desired to be sharp must be got into focus, before all else, without using a diaphragm. After this has been received, put in the stop selected as being the proper one to use on the occasion, then observe the point (nearer than the one taken at first) where the sharpness ceases. Then remove the stop and focus this point; again replace the stop and focus this last point; place the stop again in the slot, and the result will be satisfactory. But in photographing portraits, the reverse method should be adopted; the nearest object must be first focused, after, those points the most distant.

EXTRACTS.

The Half-tone Process Popularly Explained.

BY WILLIAM GAMBLE.

Having undertaken to popularly explain to you the half-tone process, I ought perhaps, in the first place, to make it clear to you what is meant by the term in its relation to process work. I have heard it stated that the process is called half-tone, because in the reproduction the picture is lowered to a half-tone, that is to say, possesing neither high lights nor deep shadows. That explanation is, however, a mistake. The term half-tone came about in this way. The difficulty of the early process workers was to find a satisfactory method of reproducing the half-tones of the photograph in surfaces for mechanical printing. Taking the case of typographic blocks, it was easy to reproduce high lights by leaving the printing block hollow in those parts, so that they would not be covered with ink, and would deposit no colour on white paper. It was also easy to reproduce shadows by leaving those parts in relief on the block so that the ink was deposited on them, and thus transferred a patch of solid colour to white paper. But what would become of the half-tones? It was not possible by the operation of passing a roller over the block to lay half a shade of ink on certain parts. Thus it was a picture without half-tones, and therefore merely a silhouette; but these early process workers were led to reflect that the wood-engraver got his tones by means of lines of more or less thickness and by placing lines closer or further apart, also that the aquatint etcher obtained his effects by varying openness of a resinous grain, whilst the mezzontinter and the steel-plate engraver obtained their effects by the closeness and size of the stippling; and, again, the lithographer took advantage of the grain of coarsely ground stone. Thus it was argued that, if the half-tone of a photograph could be broken up into some sort of a grain, the problem of making the photograph into a printing block would be solved. We know that this problem was solved after years of patient experiment by placing in front of the sensitive plate a ruled screen, that is to say a net work composed of crossed lines on glass. The photographic image was thereby broken up into a grain, which reproduced the tones of the photograph by dots of varying size. Half-tone reproduction was accordingly achieved, and, naturally, the method was called the half-tone process. I do not know who first called it "half-tone;" but, probably, it arose in this way: It was variously called by different workers according to their fancy; for instance, it was the "Meisenbach" process—so called after the patentee of one of the methods, whilst others called it the "nature" process, and, besides, there arose such names as "heliotype" and "luxotype." But the public wanted to know what these strange terms meant, hence it was usual to add "a process for reproducing the half-tones of photographs," and this soon became shortened into the "half-tone process." So this name, ugly as it is, has stuck to the business.

Now let us see how this half-tone process is worked.

The first and most important requirement is a screen. This consists of two pieces of plate glass cemented together, and on the inner sides of these two plates are ruled parallel black lines, the lines on the one plate crossing those on the other so as to form a network. The most perfect screens are those made by Levy, of Philadelphia. His method of manufacture consists in coating the glass with a ground which will resist a glass etching mordant, cutting the lines through the film by a diamond point driven by a dividing engine, and then etching the glass left bare. The resulting furrows are filled in with an opaque pigment, and the screen thus formed is very perfect in the two essential qualities of opacity and transparency. These screens are ruled in various degrees of fineness or coarseness, the ruling determining the size of the grain points. Thus, for poster work, 55 lines per inch is used; for newspaper blocks, to suit rough and rapid printing, 75 or 85 lines are used. Various styles of printing are accommodated with rulings between 100 and 175 lines to the inch. It is possible to get screens of 200 to 240 lines to the inch, but the blocks from these are a bit too fine for British printers. Most of the half-tone work you see about in the magazines and illustrated papers is done with screens of about 120 to 150 lines to the inch. It is to be noted that the finer the screen used the greater the amount of detail; the coarser the screen the greater the amount of contrast.

The screen is placed inside the camera immediately in front of the sensitive plate, but not in contact with it. In fact, provision must be made for securing a variable distance between the screen and sensitive plate, for reasons which I will presently explain. In cameras made specially for half-tone work, there is in the back of the camera a screen carrier, which is made to travel to and fro by means of a lever or screw, and the distance at any point is shown by an indicator on the outside of the camera. When the dark slide is inserted and the shutter drawn, the screen carrier is brought forward as near to the plate as may be required. In the same way the screen may be brought up to the focussing screen until the right effect is observed, when the distance shown by the indicator is noted, and the screen can be set again to the distance when the dark slide is put in.

The old-fashioned way of using the screen was in the dark slide, having two carriers—one for the plate remaining fixed, and the other for the screen being separated to varying distances by

means of strips of cardboard. It was a clumsy method, and I have here a newly-invented slide in which there is a mechanical screen adjustment from the outside, and there is an indicator plate to show the distance. It forms a very compact arrangement, and its great merit is that it can be attached to any camera, so that, if any of you want to dabble a bit in the half-tone process, you can fit up even a half-plate camera with this slide.

The lens used for the process may be any good rapid rectilinear, but it must have a slot for Waterhouse diaphragms, not an iris, because it is necessary to vary the shape of the diaphragm openings. It is further necessary that the lens be fitted with a prism or mirror for reversing the negative, otherwise, as we print from the negative direct on to the block, we shall get a block which will yield an ultimate print the wrong way about.

The remaining fit-up is pretty much in accordance with the ordinary arrangements for copying.

Having told you about the apparatus used, I must next explain to you the principles involved in the making of a half-tone negative.

You want to know why it is necessary to place the screen at a certain distance, and how that distance is arrived at; also why it is necessary to vary the shape of the diaphragm, and what is the shape required.

First as to the screen distance. The early workers thought that the screen had merely a "chopping-up" effect on the picture. The result of this want of knowledge was that the operator simply placed the screen close to the sensitive plate, and aimed at making it cast a sharp shadow of its lines on to the plate. The result was that the early half-tone work had a raspy, gauzelike effect, which entirely killed all the delicate tone and detail of the picture, and even to this day some work has this characteristic as a result of the imperfect knowledge or perversity of the operator, who is much inclined to cling to obsolete methods of working. It was not till operators began to understand that the screen was an optical instrument, and not simply a sieve, that half-tone work began to improve. Investigation into the theory of the screen working showed that under suitable conditions the screen might be regarded as a collection of tiny apertures which acted the part of pinhole lenses. It was just like the battery of "gem" lenses that you are familiar with for making postage-stamp portraits, except that each aperture, instead of making a separate picture of the object, could only photograph the illuminated spot of the light at the diaphragm opening.

Thus you will understand there was a double action going on, viz., that, whilst the picture was photographed through the screen by means of a lens, every aperture of the screen was doing a little business on its own account, namely, it was photographing the shape of the spot of light at the diaphragm opening. Of course, if the apertures of the screen were acting as pinhole lenses, they required a working focus; hence a screen distance was necessary.

Now you will say, "We quite understand that this pinhole action may go on, but what is the use of it?" To explain it I must go forward a little to the printing process.

What we require in a half-tone negative is a means of printing the picture on to the zinc or other metal plate in dots of varying size—big dots for black shadows, medium dots for half-tones, and fine dots for high lights. Now, if we are to print dots, we must have a negative punctured, so to speak, with holes, but it is quite certain that, if the lines of the screen were in contact with the plate, we should not have a "perforated" negative, but the exact opposite, viz., a negative of separate dots, just as if you take a print from a piece of perforated zinc on to sensitive paper. But suppose you put the screen a little distance away, and allow the pinhole action to form a larger dot, you can understand that it is possible to carry this spreading action until each dot touches, and even overlaps its neighbour. Well, then, as the dots group themselves in spaces alternately like the black squares of a chessboard, you will see that, by making them spread until they touch, we get "the perforated" negative we require. In the old way, by assuming that the only object of the screen was to cast a shadow, the spreading of the dot had to be forced by long exposure, and by vigorous intensification, which made the negatives hard and screeny; but, by taking advantage of the pinhole action, the spreading is accomplished in a quick, harmonious, and natural way. Another important advantage is gained: we find that the further the screen is from the sensitive plate, the less is its effect in breaking up the picture, and this holds good to the extent that, if the screen is far enough away, the negative shows no screen effect at all, you would not know the screen had been there. Thus you see that, by taking advantage of the pinhole action, we can work our screen a considerable distance from the plate, and we get thereby more tone and detail. That explains the wide difference between the half-tone work of to-day and that of even two or three years ago. The improvement is due to operators having found out, consciously, or unconsciously, this little secret of the working of the screen.

The altering of the shape of the diaphragm had the same object in view, viz., the spreading of the dot in a suitable direction, so that we may get the "perforated" negative I have described. As the dot is formed by pinhole action, it is obvious we can make the dot any shape we please, by altering the shape of the diaphragms. Thus we find that square dots give a better joining up to each other than round ones.

Once the operator has grasped these leading principles of the process, the negative-making is an ordinary photographic operation, and either wet plates or dry plates may be used. There always has been a great prejudice in favour of wet plates, but, for my own part, I find just as good, if not better, results can be obtained on suitable photo-mechanical dry plates.

The negative made, it is printed on to a zinc or copper plate sensitised with a bichromated film, generally of albumen, gelatine, gum, or fish glue, the latter being now perhaps most extensively used. The process is analogous to carbon, the film, after being exposed under the negative, being developed by washing away the parts which have been protected from the light. The development is continued until the zinc is laid bare between the dots. Then the plate is dried, and, in case of fish glue, is heated until the glue is made so hard as to be acid-resisting. Then the plate can be etched until the dots stand in sufficient relief to yield a printing surface. The remaining operations are only those of fixing it for the typographic printing press by trimming up and mounting it to the height of type.

Now I hope I have made plain to you what this half-tone process is, and I want to plead with you to give it a little more tolerance. It is not yet perfect, but it is a young process and will improve. One so often hears tirades against it, and it is often said that "process" is antagonistic to the interests of the photographer on the one hand and the artist on the other. I do not believe any such thing. On the contrary, it has widened the scope of photography, and opened up a more extensive field for the artist. Where photography was only a method of producing portraits and views ten years or less ago, it now takes rank as one of the graphic arts. In this year we have been summing up on every hand the advantages we have gained from the prolific inventions of the present reign, but I think it has been overlooked how much has been due to three industries which have arisen out of processes invented and brought to perfection in what has been called the Victorian age; I refer to electrotyping, stereotyping (by the *papier-màché* process), and photo-engraving. Take away these valuable auxiliaries of the printer, and we deprive at once the masses of the people of their cheap literature, whether it be in the form of books, newspapers, or magazines. Pictorial knowledge is the most easily imparted, and has played a large part in the literature of this reign; indeed, we cannot measure how great a debt this age owes to photography and the photo-mechanical processes by reason of the wealth of illustrations which they have provided —not simply pictures that amuse, but illustrations which have made scientific, technical, and general educational works far more valuable and instructive.—*Paper read at the Photographic Convention.*

The Swing-Back.

In our previous article we dealt with the distortion in a photograph caused by tilting the camera, which shows itself in the form of slanting of the perpendicular lines, and the effect of the swing-back in rectifying such errors. But we have often heard it alleged that, in correcting that form of distortion, the swing-back itself produces another kind, which for purposes of distinction may be called "vertical distortion"; that it, in fact, produces an alteration in the proportionate height of the objects depicted. This, it is our purpose to show, is another misconception; but, as such a form of distortion is actually produced by swinging the back of the camera under certain circumstances, it may be worth while to consider, in as brief a manner as possible, where this misconception arises.

For the purpose of explanation we propose to examine what takes place in photographing a geometrical diagram at close quarters, as, though the conditions differ somewhat from those that prevail in ordinary landscape or architectural photography, the principles involved are precisely the same, but the effects of the various movements are exaggerated and brought into greater prominence, which is what we require for the purpose. Nothing answers the end in view better than a simple parallelogram, of as

large dimensions as may be convenient, ruled or divided into squares of equal size after the manner of a chessboard. A sheet of newspaper ruled in such a way can be easily attached by means of drawing pins to the wall of an ordinary room and the camera placed upon a level table, when the observations can be made with the greatest ease and accuracy, the printing enabling the definition of the image to be judged, when desirable, at any portion of the field of delineation.

Let us suppose, then, that the camera, fitted with a lens of the rectilinear type, or one capable of yielding straight lines, is placed upon the table, two pencil lines, crossing one another at right angles, having been first accurately ruled on the focussing screen in a horizontal and a vertical position respectively. In front of the camera, on a fairly well-lighted wall, let the diagram be hung or pinned in such a position that its centre coincides with the axis or centre of the lens, which may be known by the centre horizontal and vertical lines of the drawing coinciding exactly with those drawn on the ground glass. If a plumb line applied to the drawing shows that it is truly vertical, then everything is ready for our examination.

Now let the image be accurately focussed upon the ground glass, with the back of the camera in the vertical position and the full aperture of the lens. This latter condition enables us the better to judge of the relative effect produced on the definition by the various movements, as, by the introduction of a stop, especially a small one, very considerable alterations may be made in the position of the focussing screen without materially affecting definition. Under the conditions above named, an image will be produced of the diagram or chart precisely resembling it in every particular; that is to say, not only will its boundary lines bear the same relationship to one another in size and position, but the same will hold good with the divisions, and the compasses applied to these will show that they are of precisely similar size throughout. The definition will be even over the whole surface so far as the capabilities of the lens admit, that is, there will only be the natural falling off from the centre to the edge.

Now bring the swing-back into play to its fullest extent, it matters not in which direction. We shall now have an image of the chessboard, in which the perpendicular lines slope uniformly from one end to the other, according to the direction of the swing, so that one end of the parallelogram is represented as considerably narrower than the other. This is the form of horizontal distortion referred to in our previous article. If the swing-back be of the most perfect kind, and swing from the centre, the dividers will show that the length of the central *horizontal* line has undergone no alteration in size, or practically none. If the swing were from the centre of the plane of delineation, instead of slightly in front of that centre, there would be absolutely no alteration in length of the middle line, nor of the position of the image on the plate; but, under ordinary circumstances, the image will be either raised or lowered a little on the plate, but there is scarcely likely to be any appreciable alteration in the length of the central line. As the parallel lines recede from the central horizontal one, they will be found to alter progressively in length, those on one side becoming larger, on the other smaller, and the change in length proceeds continuously from top to bottom, or bottom to top, as the case may be.

If we next examine the vertical lines, we shall find that, while the central one retains its absolute perpendicularity, each one of the others has acquired a certain inclination, which increases as they get farther from the centre, the distortion in this case, it will be noticed, proceeding symmetrically from the centre outwards, and not continuously from end to end, as in the previous case. But it does not finish here. If we apply the compasses, we shall find that, though the length of the lines necessary varies in consequence of their slope, the top of the figure is parallel with the bottom; but, if we compare the length of the central one, which, is the height of the figure, with the central horizontal line, which. as we have seen, remains unchanged, we shall find that the height of the square has been very considerably increased. If we extend the examination to the individual squares, we shall discover that this increase of size in the vertical direction is not distributed evenly over the whole surface, for the divisions are largest at the bottom or broadest part of the figure, and become gradually smaller as they approach the top or narrow end. One half of the original square is, in fact, squeezed into a smaller space, while the other half is stretched out, the stretching being much greater than the condensation, so that, as a result, the whole figure is increased in length. The original chess board has been, in fact, converted into a section of a truncated cone, and the smaller squares into irregular figures, varying both in size and shape in every part of the image. Thus we see that the swing-back does actually cause distortion, not only laterally, but also vertically.

Now, if it has not been so already, let the back be inclined with its upper part nearest the lens, as it would be placed to rectify a sloping perpendicular, and tilt the camera until the back becomes vertical again, which can easily be done by propping it up with a book of suitable dimensions. Now alter the position of the diagram, raising it to such a height on the wall that it occupies the same position on the focussing screen as before, or until the horizontal and vertical centre lines coincide with the marks on the ground glass. We now have an opportunity of studying the effect of tilting the camera and the compensating action of the swing-back.

But, before proceeding to that examination, take the book from under the camera, restore the back to its vertical position, and raise the sliding front, carrying the lens as far as it will go. It will, in all probability, not rise to anything like the distance required to get the whole of the diagram on to the screen, but sufficient of it will be there to prove, on examination and measurement, that the image remains entirely unchanged, except for the loss of definition. With a small stop this may be restored, and we then have an image precisely similar to the one formed with the diagram on the lower position; but, with the full aperture of the lens, the definition will be very bad, but can be improved by focussing, that is, by altering the position of the ground glass. Then we shall find that, though the image retains its correctness of outline and of proportion, it has become generally smaller, owing to the fact that the diagram has been removed further away, and the focal distance consequently shortened.

However, in actual architectural work, such conditions would not prevail, and, where the covering power of the lens permits it, raising the camera front while keeping the camera horizontal would appear to be, as many of our most practical workers deem it, the best way of avoiding converging perpendiculars.

But to return to our observations of tilting. Let the camera be reinstated in position, with the image of the chessboard duly centered, and the swing-back in its normal position, at right angles to the axis of the lens. On examining the image, it will be found to be essentially similar in character to that already described as produced by the use of the swing-back, with converging vertical lines and general disorganization of the proportions of the chart; but—and here is the whole gist of the matter—*the distortion is in the opposite direction to that produced by the swing*. In other words, while, if the swing is used as it would be for the correction of converging perpendiculars, the upper portion of the diagram would be widest on the focussing screen, when the camera is tilted, the reverse is the case, as every one knows, and the height of the object, instead of being increased, as it is by the swing-back, is reduced by tilting. This places the whole question of the alleged incorrectness of the swing-back in a nutshell. While it is quite true that by itself it is a distorting agent, it is just that fact that constitutes its value as a remedy for distortion, since it exactly balances a similar distortion in an opposite direction produced by other means, tilting the camera. If there be any doubt on the point, we have simply to swing the back of the camera, as it now stands, into the vertical position, when the image of our chessboard will bear the most rigorous examination and measurement.

Now, on the question of definition, a few words may be said, since a belief exists in the minds of some that the swing is used to correct the focus, whereas, as a matter of fact, whenever it is used *for the purpose of correcting distortion*, it is to the detriment of definition, and in the contrary direction to that required for focussing. It is quite true that in both landscape work and portraiture we employ the swing-back in order to bring objects into a better focal plane, but under such circumstances, while improved definition is undoubtedly obtained, the perspective of the picture is rendered incorrect. Take, for instance, a sitting figure with the hands on the knees "pound of candle" fashion, when the swing back is brought to bear on such a subject, the already exaggerated hands are still further magnified, and similarly if the side swing be employed to get into focus the near side of a sheet view taken from the foot walk, the already strained perspective is thrown still further out of proportion.

If we examine the image of the chessboard diagram as given with the tilted camera and swing in normal position, and compare it with the similar one when the camera was horizontal, there will not be found to be a great deal of falling off in definition. If, as we intend should be done, the focus is taken at the centre, then there will be in both cases a slight falling off towards the edges, a little more where the camera is tilted than in the other, because by the alteration of the position of the diagram, its top portion has been taken further away, while the hollow has been brought

proportionately nearer to the plate. Now a slight inclination of the back in the contrary direction to that required for curing distortion will set matters right. Now bring the back into play and straighten the lines of the diagram, and the result on the definition will be that, while the centre remains sharp, the outside lines have lost all semblance of lines, for the top and bottom of the diagram, already thrown out of focus by the act of tilting, have been much more so by the use of the swing.

It is only by the use of a very small stop that definition without distortion can be restored, and, in extreme cases, perhaps the best definition obtainable falls very short of what is desirable. If the back be inclined in quite the contrary direction, the definition can be obtained perfectly over the whole plate with a comparatively large stop; but, then, more than the original amount of distortion is introduced.

This brings us to the third phase of the matter, namely, the correction of distortion in the after-process of reproduction, another question on which considerable difference of opinion exists and no little apparent ignorance. This must, however, form the subject of another article.—*The British Journal of Photography.*

Hints on Photographing Polished Surfaces.

Evidently the photographing of highly polished surfaces presents difficulties to some, if one may judge from the number of queries that are continually being replied to through the Answers column; but there is really very little difficulty in the way if a few simple expedients be resorted to. Suppose, for example, a group of plate has to be photographed, some portions of which are highly burnished, while others are frosted or matt. The most common, and, on the whole, perhaps the best, way of dealing with it is to take a piece of tolerably hard putty, and with it evenly dab, or stipple, over the bright portions of the metal; it will dull the surface, and thus prevent reflections—the only source of trouble. After the photograph has been taken, the putty can quickly be cleaned off with a plate brush charged with whiting and a little benzole.

Another plan, which is frequently adopted, when photographing cups, vases, and the like, is to moisten the atmosphere of the studio, either by sprinkling the floor with water, or by means of a scent sprayer, and then placing a lump of ice in the vessel. The moisture in the room then condenses on the cold surface of the metal, and thus renders it dull and non-reflective. When this method is adopted, the precaution must be taken that everything is ready for the exposure being made before the ice is introduced into the vessels, as the moisture condenses rapidly on the cold metal, and soon collects in sufficient quantity to run down the sides in tears. After the exposure is made the ice should at once be removed, in case a second negative has to be taken, in which case it can be reintroduced, when the moisture will condense afresh. We are here assuming that the articles to be photographed are such that ice may be put into them, but that is not always the case; still advantage may be taken of the condensation of moisture by simply keeping them for some time previously in a cold place; then, when they are brought into a warm or damp atmosphere, condensation will take place.

There are cases, however, where the owners of the plates will neither allow the putty to be employed nor ice to be used. Then the difficulty of the photographer is increased, but with judgment it may be overcome. He must now depend entirely upon the illumination of the objects, and that alone. The main thing is to so light the subjects that there are no reflections from them in the direction of the lens. As the angle of reflection equals the angle of incidence, it is obvious that all front light must be stopped off, and only a side light used, so that all the reflections are away from the camera. The light falling on the objects should be as concentrated as possible, and if there are any deep shadows—and there will be if the highly burnished portions are in shadow, as then they will appear nearly black—they may be softened by means of a reflector, care, of course, being taken that none of the light from it reaches the lens. The best angle of light for most subjects will be about 45°. That angle will be found to show up the chasing or engraving very clearly, but a more direct side light will often do so still better.

The development of the negatives should be done tentatively, so as to get out all the detail in the shadows before density is obtained in the lights. Very often, besides the chasing, there is an inscription, and, in the case of a presentation plate, it is imperative that it be distinctly rendered. Here, again, a strong side light is an absolute necessity, for, unless one be used, the inscription will not be readable in the photograph. Here is a dodge that many do not know of. It is this: Take the article or the inscription plate to a copperplate printer, and get him to fill in the lettering with ink, as if he were going to print from it. As the letters will now be in black ink, the inscription will be very distinct in the photograph; the ink can afterwards be removed with a little benzole or turpentine.

One thing to be specially avoided in photographing plate is under-exposure and a forced development, which are the most common faults in photographs of plate. The exposure should always be timed for the shadows, and not for the lights, as is too frequently the case. In photographing any bright objects, a great advantage will accrue from the use of backed plates.

Copying Daguerreotypes seems to be a difficulty with some, but these pictures are really very easy to copy if we keep in mind the fact that the angle of reflection and the angle of incidence are equal; hence, if all front light be avoided, and the picture illumined by a side light only—say an angle of 45°—an excellent reproduction will be obtained.

Bright machinery has often to be photographed, and sometimes where it is very unequally lighted. The only thing to be done under these conditions is to paint over the polished portions, or, better still, the whole machine, with flatting colour. This most engineers now do who have their machinery photographed. The flatting colour is readily cleaned off with benzoline or turps, and a pledget of cotton waste. Usually the maker's name is on the machine, and it is important that it shows very distinctly in the photograph. As the letters are usually in relief, it is a good plan to just whiten the surface of them with a piece of chalk.

In photographing tombstones or monuments—say of polished granite, with the letters in gold—it is sometimes difficult to get the inscription distinct, even when it is illumined by oblique strong sunlight. The best thing to do in a case of this sort is to make up a stiff paste with whiting and water, and then fill in the letters with it, using a palette knife for the purpose. After the photograph has been secured, the whiting can be quickly removed, either by brushing it out dry or by washing it out with water.—*The British Journal of Photography.*

MONTHLY COMPETITIONS.

The medals for the half-year, February to July, have been awarded as follows:—

Silver Medal ... ... Mrs. McNair.
Bronze Medal... ... Mrs. Leet Palk.

EXHIBITS FOR JULY.

SUBJECT—"Clouds."

C. S.—'Sunrise off Coconada' is a very difficult subject requiring special treatment in the method of developing. The result is unfortunately a failure, and the print is consequently flat and unimpressive. 'Clouds at Ooty' is much better, though the under-exposed foreground is obtrusive.

L. M. N.—All printed from good negatives. We like the smallest of the set called 'A cloudscape,' preferably the one in sepia, although the horizon line is not parallel with the lower edge, and consequently throws out the perspective a little. 'Clouds in a picture' is a difficult subject well treated. In both the sets noticed above, the trimming down of the pictures to suit the subject is highly commendable. In the remaining picture, the boat is in the wrong place and, being blurred from movement, it is an eyesore—paint it out, if possible. The whites of the sky in this print are blueish, showing that the iron was not completely washed out of the paper before the uranium toning solution was applied, presuming that the sepia red tone was obtained in this way.

COMPETITIONS.

(Open only to Members of the Society.)

SUBJECT FOR MONTHLY COMPETITIONS IN { SEPTEMBER.—*An Avenue.* OCTOBER.—*Wind.*

RULES.

1. *Two Special Competitions shall be held, in each year, in addition to a monthly competition.*

2. *The Committee shall select the subjects for the Special Competitions, and notice of the selected subjects shall be announced in the Society's Journal in February and in July of each year. The subject for each monthly competition shall be selected two months in advance by the members present at the monthly meeting, and shall be notified in the next issue of the Society's Journal.*

3. *Pictures, &c., competing for Prizes at the Special Competitions must reach the Secretary by the last day of January and of May, and those competing at the monthly competitions must arrive in time to be shown at the monthly meeting.*

4. *Prizes will consist of Silver and of Bronze Medals, and of Certificates of Merit.*

5. *Not more than one Silver and one Bronze Medal shall be given at each Special Competition, and one Silver and one Bronze Medal may also be given at these competitions for excellence in copying, enlarging, lantern slides, or any other special branch of photography. One Silver and one Bronze Medal shall be awarded half-yearly to the exhibitors who obtain the highest and the next highest marks respectively at the monthly competitions. The number of Certificates of Merit granted at each competition is left to the discretion of the Judges.*

6. *A member may receive only one Silver and one Bronze Medal in the special, and one Silver and one Bronze Medal in the monthly, competitions, held during the same year; but should a member who has been adjudged a medal be disqualified under this rule from receiving it, he shall be given a Special Certificate instead, marked 1st or 2nd Prize.*

7. *A Special Committee of three members shall be appointed Judges by the General Committee to carry out, subject to these Rules, all arrangements connected with the competitions.*

8. *The Special Committee shall be appointed after the Annual General Meeting in January, and shall hold office for one year, and any vacancy occurring will be filled up by the General Committee.*

9. *The Special Committee shall decide upon the merits of the pictures, &c., sent in for competition, and their decision shall be final. The system of judging the monthly exhibits shall be by awarding marks, a record of which shall be kept by the Judges, the marks being totalled and the results declared half-yearly. For this purpose, only the three highest marks awarded at each competition to each competitor shall be recorded, but not the aggregate marks gained by each for a number of exhibits.*

10. *If any member of the Special Committee is a competitor, the General Committee shall appoint a non-competing member to act as Judge at that competition instead of the competing member.*

11. *No exhibit shall compete twice, but pictures, &c., already exhibited elsewhere, may be sent in for the competitions.*

12. *Lantern slides sent in for competition shall be in sets of six, and shall be judged upon the screen.*

13. *The Special Committee shall not award any Prizes or Certificates, unless they consider the exhibits to be worthy of such distinction.*

14. *Each competing exhibit shall be the entire work of the exhibitor, and when sent in shall be accompanied by a Certificate in the annexed form:—*

> *"The (1) Arranging, (2) Exposing, (3) Developing, (4) Retouching (if any), (5) Printing and (6) Trimming and Mounting were done by me without assistance."*
>
> ______________________
>
> *Member, A. P. Socy. of Madras.*

15. *All pictures for the Special Competitions shall be mounted, and may, at the competitor's option, be framed but not glazed. Those for the monthly competitions need not be mounted, but should be trimmed.*

16. *Each competing picture should have a name or title, which should indicate the nature of the subject.*

17. *No competitor shall be allowed to send in more than six pictures to compete for any particular Prize, but the same member may compete in all branches specified in Rule 5.*

18. *The pictures gaining 1st and 2nd Prizes at the half-yearly competitions, and the best pictures sent for the monthly competitions, shall, when practicable, be reproduced in the Society's Journal.*

19. *To give up-country members an opportunity of seeing the competing pictures at the special competitions, the pictures shall be circulated to all members of the Society, not residing in Madras, who apply to see them. As this arrangement can only be carried out by the cordial co-operation of the members themselves, they are expected to forward the pictures without delay to the next member, and to send one of the accompanying post-cards to the Secretary, so that by this means the progress of the pictures may be traced.*

List of Members whose Dark Rooms are available for use by Members of the Madras Amateur Photographic Society.

J. L. VANGEYZEL, Dare's Gardens, Chetput.
T. P. S. NAGARATNAM, 47, Malayappen Street, Black Town.
E. MAENNIG, Buckingham House, Tranquebar.
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NOTICES.

Members of the Madras Amateur Photographic Society are permitted to use this column free of charge for two insertions of each advertisement—all subsequent insertions of the same being chargeable at 2 annas a line. When an advertisement becomes liable to this charge, it will not be inserted unless a postal order or stamps to the value of the charge are previously sent, addressed to Graves, Cookson and Co., Scottish Press, Mount Road Branch, Madras. Advertisements received up to the 5th of each month will be inserted in the next issue of the Journal; those received after this date will be held over for the subsequent issue.

Subscribers, and others who are not regular dealers may make use of this column for advertisements by paying at the rate of 3 annas a line.

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Entrance Fee, Rs. 5.—Annual Subscription *for Resident Members, Rs. 15; for Up-country Members, Rs. 12. Members joining after 30th June pay Half-year's Subscription.*

Candidates for Election—*should be proposed by one member and seconded by another; and they will be ballotted for at the following meeting.*

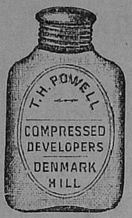
Ordinary Meetings—*of the Society are held on the first Friday of each month at 6 p.m. and members are at liberty to introduce visitors.*

Letters to the Editor—*should be addressed care of Messrs. Graves, Cookson & Co., Scottish Press, Mount Road Branch, Madras.*

Letters to the Honorary Secretary—*should be addressed to S. Jackson, Esq., care of Messrs. Benny & Co., Madras.*

Letters to the Honorary Treasurer and Remittances—*should be addressed V. G. Lynn, Esq., care of Messrs. Best & Co., Madras.*

Communications regarding the issue of the Journal—*should be addressed to the Publishers.*



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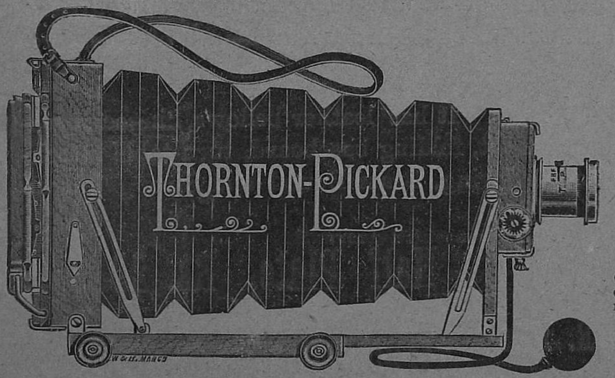

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